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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,334	11/14/2003	Chad McCormick	1506-310	9871

37374 7590 01/18/2005

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EXAMINER

BUI, THACH H

ART UNIT PAPER NUMBER

3752

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/713,334	<b>Applicant(s)</b> MCCORMICK, CHAD	
	<b>Examiner</b> Thach H Bui	<b>Art Unit</b> 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 15 is objected to because of the following informalities: the claim does not specify the claim number of which it depends on. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 8-12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayes (U.S. Patent No. 3,921,912).

As per claims 1 and 8, Hayes teaches a sprinkler comprising a sprinkler body (13), and a nozzle (34) disposed on the sprinkler body. The nozzle includes a substantially hollow, cylindrical shaped body having a first end (35), a second end (24) and a flow passage extending therebetween surround by an internal wall (see Fig. 2a). The nozzle further comprises a plurality of stepped, radial offsets formed along the internal wall (32) such that an internal diameter of the nozzle decreases from the first end to the second end of the nozzle.

As per claims 2, 9, Hayes teaches a nozzle of which is removable from the sprinkler body (see Fig. 4).

As per claims 3-6, 10-12, 15, Hayes teaches a plurality of stepped, radial offsets and/or fin like protrusion formed along the internal wall and parallel to fluid flow to reduce fluid turbulence (col. 3, line 60-65), and the first and second ends attached to a fluid source (see Fig. 2a). The plurality of stepped, radial offsets and/or fin like protrusion will create a flow with a rate of which is less around the boundary layer (near the internal wall) compared to the centerline fluid flow.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 13-14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes.

Hayes has all the features of the claimed invention (as mentioned in the above paragraphs); however, Hayes does not specifically teach the stepped radial offsets are arranged at a various angle to decrease and/or increase a boundary layer of fluid within the nozzle. It would have been obvious to one skilled artisan in the art to have made the stepped, radial offsets at various angle i.e. taller and/or shorter segments within each step to increase/decrease a boundary layer of fluid within the nozzle and maximizing a throw radius; therefore, it will increase dynamic and minimizing the potential of water turbulence and maximize a throw radius of the sprinkler by

maintaining boundary layer fluid flow at a rate less than centerline velocity. Methods follow by apparatus.

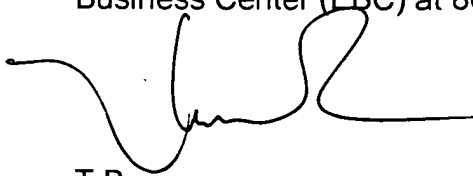
### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Larsen, and DeWitt are cited of general interest.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thach H Bui whose telephone number is 571-272-4898. The examiner can normally be reached on Monday-Friday, 7:30-4 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on 571-272-4919. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



T.B.  
01/10/2005